

REMARKS

Claims 22-23 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement and also the enablement requirement. Since these claims are cancelled, the rejections are now moot.

Claims 1, 4-6, and 19-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen (U.S. Patent No. 5,846,648) in view of Matsunuma (U.S. Patent No. 6,602,621). In response, Applicants amended claim 1 to clarify that the seed crystal layer contains crystal grains, and covers the surface of the substrate and the metallic islands, and respectfully traverse the rejection based on this amendment.

In the outstanding Office Action on page 4, second paragraph, the Examiner asserts that the individual grains 74 and the seed layer 22 of Chen correspond to the metallic islands defined in claim 1 of the present Application. However, unlike the present invention, which has spaced metallic islands, the grains 74 of Chen are contiguous. (See col. 16, lines 47-49 of Chen). FIG. 2 of Chen further shows the contiguous nature of the grains 74. In particular, no space is provided between adjacent grains 74 in the seed layer 22.

In contrast, the present invention has metallic islands that are physically spaced from each other on the surface of a substrate, as recited in amended claim 1. Accordingly, the seed crystal layer of the present invention covers over the metallic islands and the surface of the substrate around the metallic islands. In Chen, the intermediate layer 24 cannot come into contact with the surface of the substrate 12, as is apparent from viewing FIG. 2 of Chen. The grains 74 of the seed layer 22 of Chen therefore cannot correspond to the metallic

islands of the present invention. Additionally, the intermediate layer 24 of Chen cannot correspond to the seed layer of the present invention.

The Examiner further asserts that the islands are also known as nucleation sites based on the teaching of Chen at col. 8, lines 39-48. Applicants respectfully traverse this statement of the Examiner. A nucleation site is a seed for crystal grains. A crystal grain will grow from a nucleation site. Even the surface of a continuous layer can provide nucleation sites. Variations, such as protrusions or depressions, on a surface of a continuous layer can trigger the growth of crystal grains. Accordingly, nucleation sites do not always correspond to islands.

As shown in FIG. 2 of Chen, the surface of the continuous layer 22 can provide nucleation sites spaced from each other since some of the grain 74 fail to function as nucleation sites. The grains 76 appear to grow from the upper surface of the grains 74 only at the bottom of the depressions defined in the surface of the continuous layer 22. In FIG. 2 of Chen, the Cr grains 76 do not grow from each of the grains 74.

The metallic islands of the present invention serve as nucleation sites, while the term nucleation sites in Chen includes a structure other than islands. Accordingly, Applicants respectfully submit that the statement by the Examiner that islands are also known as nucleation sites is incorrect.

Matsunuma is directed to a magnetic recording medium, method for producing a magnetic recording medium, and magnetic storage apparatus. Similar to Chen, Matsunuma fails to disclose or suggest a polycrystalline structure film that includes a seed crystal layer

containing crystal grains and covering over the surface of the substrate and the metallic islands. Accordingly, since neither of the references disclose or suggest the above feature, withdrawal of the §103(a) rejection of claims 1, 4-6, and 19-21 is respectfully requested.

Claims 1 and 19-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chen in view of Hikosaka et al. (U.S. Patent No. 6,620,533). Claims 1, 4, and 19-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chen in view of Ranjan (U.S. Patent No. 5,631,094). Applicants respectfully traverse the rejections for the reasons recited above with respect to the §103(a) rejection of independent claim 1.

Hikosaka is merely cited by the Examiner for teaching to use a material including atoms of at least one metallic element, such as Pt and Co and molecules of a compound such as an oxide or nitride. Hikosaka fails to disclose or suggest a seed crystal layer containing crystal grains and covering over a surface of the substrate and the metallic islands. Ranjan is merely cited for teaching to use a material including atoms of at least one metallic element, such as Ni and molecules of a compound such as Al_2O_3 . However, Ranjan also fails to disclose or suggest the above-recited features now included in amended claim 1. For these reasons, withdrawal of the §103(a) rejections of claims 1, 4, and 19-21 is respectfully requested.

For all of the foregoing reasons, Applicants submit that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

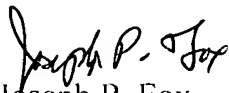
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